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THE

Teacher's Guide

AND

PARENT'S ASSISTANT.

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METHOD OF TEACHING THE ALPHABET.

Amid the various improvements in the business of education, which are making at the present day, the method of teaching the alphabet has not been overlooked. Skilful teachers and able writers have not deemed this humble department of instruction unworthy their attention. The result is, that improved methods of teaching the alphabet have been invented, and are coming into use. That these should be generally known and adopted, is important on several accounts. A child, when skilfully taught, can learn his letters in much less time; and he will thus be sooner prepared to proceed to the next step of his progress in the art of reading. And though it may not be of much consequence whether the child becomes able to read a few weeks or months sooner or later, yet the saving of time to the *teacher*, is a consideration not to be overlooked. When a person for want of skill, spends more time than is necessary in teaching the alphabet, he wastes, not only the childs' time, but also his own; or rather, if employed in a school, he defrauds his older scholars of that share of attention which he might otherwise bestow upon them. But the consideration which is of the greatest importance in this case, is the impression which the method of teaching leaves on the mind of the little learner, and the intellectual habits which it contributes to form.

In pursuing the subject, we shall notice the principal methods of teaching the alphabet, which have come to our knowledge.

1. We begin with that method, which, we fear, has been, and still is, the one most commonly adopted. The teacher, holding a book in which letters are arranged in their usual order, points, with any thing that may be convenient, at the first letter, and says, "A." The child, looking at the letter, repeats, "A." The teacher immediately points at the next letter, and says,

"B." The child, following the pointer with his eye, repeats, "B." The teacher then proceeds to 'C,' which is dispatched in the same manner. And thus on, until both teacher and learner have said "Z,"—which ends a lesson. The child then takes his seat, having seen, for the first time, *six and twenty different marks*, and having heard and pronounced the names of them all, but without having been able to notice any one of them sufficiently to recognise it on seeing it again. The succeeding lessons are a repetition of the same process And this process is repeated day after day, week after week, and month after month. Still, the child has not learned his letters. The forms of the letters have, indeed, become familiar to his eye, and their names to his ear; but he cannot tell *to which letter each name belongs*. He may even, by the frequent repetition of the same sounds in the same order, have become able to repeat the names of the letters, without assistance, from beginning to end; and the teacher may thus be led to imagine that he knows the letters; when in fact he could not tell three of them, if he should see them any where else. Some teachers, to guard against this, occasionally reverse the process, beginning at 'Z.' and ending at 'A' But this expedient is far from remedying the evil; and some children, while they know scarcely a single letter of the alphabet, become able to repeat the letters correctly, not only from 'A' to 'Z,' but also in retrograde order, from 'Z' to 'A.'

In all this. there is so little to interest either teacher or learner, that the former usually hurries through the process as fast as he can, and the latter, while his lips are repeating the names of the letters, suffers his eye to wander far from the book. Thus the learner would go through the lesson without seeing half the letters, did not the teacher, now and then chide his negligence, and say, "Look at the letters—keep your eye on the book."

That this method of teaching is very unphilosophical and injudicious, if not sufficiently apparent already, will become so by a comparison with some other methods which we shall bring into view before we dismiss the subject.

2. The following, extracted from Mr. Wilderspin's book on the education of infants, is an account of his "method of teaching the alphabet and giving ideas of things at the same time."

"We have 26 cards, and each card has on it one letter of the alphabet, and some object in nature. The first has letter A on the top and an apple painted on the bottom. The children are de-

sired to go into the gallery, which is simply seats elevated one above another at one end of the school like stairs; the master places himself before the children in a situation so that they can see him and he them, and being thus situated he proceeds nearly as follows.

Q. Where am I? *A.* Opposite to us. *Q.* What is on the right side of me? *A.* A lady. *Q.* What is on the left side of me? *A.* A chair. *Q.* What is behind me? *A.* A desk. *Q.* Who are before me? *A.* We children. *Q.* What do I hold up in my hand? *A.* Letter A for apple. *Q.* Which hand do I hold it up with? *A.* The right hand. *Q.* Spell it. *A.* A-p-p-l-e. *Q.* How is an apple produced? *A.* It grows on a tree. *Q.* What part of the tree is in the ground? *A.* The root. *Q.* What is that which comes out of the ground? *A.* The stem. *Q.* If the stem grows up straight, in what position would you call it? *A.* Perpendicular. *Q.* What is on the stem? *A.* branches. *Q.* What is on the branches? *A.* Leaves, and they are green. *Q.* Is there any thing besides leaves on the branches? *A.* Yes; apples. *Q.* What was it before it became an apple? *A.* Blossom. *Q.* What part of the blossom becomes fruit? *A.* The inside. *Q.* What becomes of the leaves of the blossom? *A.* They fall off the tree. *Q.* What was it before it became blossom? *A.* A bud. *Q.* What caused the buds to become larger and produce leaves and blossom? *A.* The sap. *Q.* What is sap. *A.* A juice. *Q.* How can the sap make the buds larger? *A.* It comes out of the root and goes up the stem. *Q.* Where next? *A.* Through the branches into the buds. *Q.* What do the buds produce? *A.* Some buds produce leaves some blossoms, and some a shoot? *Q.* What do you mean by a shoot? *A.* A shoot is a young branch, which is green at first, but becomes hard by age. *Q.* What part becomes hard first? A. The bottom.

B.

Q. What is this? *A.* B for baker, for butter, for bacon, for brewer, for button, for bell, &c. &c. The teacher can take any of these names he pleases; for instance, the first: Children, let me hear you spell baker. *A.* B-a-k-e-r. *Q.* What is a baker? *A.* A man that makes bread. *Q.* What is bread made of? *A.* It is made of flour, water, yeast, and a little salt. *Q.* What is flour made of? *A.* Wheat. *Q.* How is it made? *A.* Ground to powder in a mill. *Q.* What makes a mill go round? *A.* The wind, if it is a wind-mill. *Q.* Are there any other kinds of

mills? *A.* Yes; mills that go by water, mills that are drawn round by horses, and mills that go by steam. *Q.* When the flour, and water, and yeast are mixed together, what does the baker do? *A.* Bake them in an oven. *Q.* What is the use of bread? *A.* For children to eat. *Q.* Who causes the corn to grow? *A.* Almighty God.

C.

Q. What is this? *A.* It is letter C for cow, c-o-w, and for cat, &c. *Q.* What is the use of the cow? *A.* The cow gives us milk to put into the tea. *Q.* Is milk used for any other purpose, besides putting it into tea? *A.* Yes, it is used to put into puddings and for many other things. *Q.* Name some of the other things. *A.* It is used to make butter and cheese. *Q.* What part of it makes butter? A. The cream which swims at the top of the milk. *Q.* How is it made into butter? *A* It is put into a thing called a churn, in the shape of a barrel. *Q.* What is done next? *A.* The churn is turned round by means of a handle, and the motion turns the cream into butter. *Q.* What is the use of butter? *A.* To put on bread, and to put into pye-crust, and many other nice things. *Q.* Of what color is butter? A. It is generally yellow. *Q.* Are there any other things made of milk? *A.* Yes, many things, but the principal one is cheese. *Q.* How is cheese made? *A.* The milk is turned into curds and whey; which is done by putting a liquid into it called rennet. *Q.* What part of the curd and whey is made into cheese? *A.* The curd, which is put into a press; and when it has been in the press a few days, it becomes cheese. *Q.* Is the flesh of the cow useful? *A.* Yes, it is eaten, and is called beef; and the flesh of the young calf is called veal. *Q.* Is the skin of the cow or calf of any use? *A.* Yes, the skin of the cow is manufactured into leather for the soles of shoes. *Q* What is made with the calf skin? *A.* The top of the shoe, which is called the upper leather. *Q.* Are there any other parts of the cow that are useful? A. Yes, the horns, which are made into combs, handles of knives, forks, and other things. *Q.* What is made of the hoofs that come off the cow's feet? *A.* Glue to join boards together. *Q.* Who made the cow? A. Almighty God.

D.

Q. What is this? A. Letter D, for dog, for dove, for draper, &c. *Q.* What is the use of the dog? A. To guard the house, and keep thieves away. *Q.* How can a dog guard the house and keep thieves away? A. By barking to wake the persons who live in the house. *Q.* Is the dog of any other use? A. Yes, to

draw under a truck. Q. Does he do as his master bids him? A. Yes, and knows his master from any other person. Q. Is the dog a faithful animal? A. Yes, very faithful; he has been known to die of grief for the loss of his master. Q. Is it right to beat a dog? A. No, it is very wrong to use any animal ill, because we do not like to be beaten ourselves. Q. Did Almighty God make the dog? A. Yes, and every thing else that has life."

As the manner of teaching the alphabet is the subject before us, we cannot pause to inquire in what way Mr. Wilderspin's children had been prepared to give all the answers above related; whether they had merely been *told* this thing and that, or whether they had actually seen the various objects and witnessed the various operations which they describe. We entirely approve the practice of giving children instruction and asking them questions on a great variety of subjects, such as Mr. W. has exhibited a specimen of; but we doubt the expediency of connecting this with the learning of the alphabet. Suppose a *letter* and a *picture* to be presented to the child's view at the same time, it is evident that the picture will attract his principal attention. He will thus receive a less distinct impression of the form of the letter, and will be less likely to recollect its name. The picture is connected in the child's mind with various interesting associations, previously existing: the letter, with none at all. And even if he, from curiosity, were disposed to examine the form and notice the name of the letter, he is diverted from this by the conversation which immediately follows respecting the object represented by the picture. Having seen the letter and picture together, he may indeed, if he should see the letter by itself, be reminded of the picture and the subsequent conversation; but this would afford him no assistance in recollecting the name of the letter, nor any information respecting its use. Mr. Wilderspin, it is true, teaches his children to say, that "A stands for Apple," &c.; but how a child who cannot read the word 'apple,' is to understand the meaning of this expression, we do not know. Nor can we conceive how children are taught, to any purpose, to *spell* 'apple' and 'baker' before they have learned three letters of the alphabet. It seems to us, that in Mr. W's method of teaching the alphabet, the only relation which the child can perceive between each letter and the picture under it, is that of *contiguity of place*; and that the child's saying, at this stage of his progress, that A stands for Apple and B for Baker, and then spelling Apple and Baker, must be merely repeating, like a parsrt, what has been said to him.

3. The following is the method of teaching practised by Mr. Fowle in the Boston Monitorial School

"An A is made on the child's slate by another competent child, called a monitor. The child is told the name of the letter, and asked to imitate it. Few do so without some persuasion; but after the monitor has held her* hand, and made a few letters for her, the child will never need such assistance again.—After making perhaps fifty A's, she is shown a B, told its name, and encouraged to imitate it. In this way, she will learn to make and name three or four letters in two hours; but lest she should be tired of this exercise, she is shown a book, and asked to pick out A's and B's, or such letters as she has been writing. In this way the alphabet is easily taught in one month; whereas, on the old plan, from four to six months are consumed in learning the *names* of the letters, to say nothing of being able to write them."

With this method of teaching the alphabet we are much pleased. The child, in order to imitate a letter, will look at it with an earnestness, and notice its form with a particularity, which nothing else could induce him to exercise. And as the memory depends on attention, this minute and fixed attention will impress the form of the letter on the mind of the child, so that he will be able to recognise it and distinguish it from others. And this impression will be rendered still deeper and more distinct by the act of making the letter on the slate; during which, the child continues to think of the form of the letter which he is imitating; and this detaining of an idea in the mind is the very thing which constitutes attention. Besides, after becoming able to make a letter, the child will, of his own accord, in his hours of recess, amuse himself with making the letter again and again; which will afford a still farther security against its being forgotten.—Mr. Fowle speaks of the child's learning "to write" in this way; but it is to be remembered, that the letters are made in the *printing* and not in the *writing* form; so that the ability both to *make* and to *read* letters in the latter form, must be acquired at a subsequent period. It may also be remarked, that children are not received into Mr. F's school until four years of age. In common schools, children are accustomed, we believe, to commence learning the alphabet at an earlier age; and it would probably be found difficult for them, at the age of two and a half or three years, to *imitate* the alphabetic characters.

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*Mr. Fowle's school consists wholly of females.

4. In "Worcester's Primer," recently published, a method of teaching is recommended, which cannot fail, we think, of being eminently successful.

"Let every parent be provided with twenty-six wooden blocks, about an inch square. On these let the alphabet be printed in Roman letters, having a capital on one side, and the corresponding small letter on the opposite side. Print the letters quite large, and be careful to make them well. There will be room to make three or four of each small letter of different sizes. The use of these blocks will constitute a new play, which we shall call Letter Play.

Arrange two or three of the blocks on a chair, shelf, or other clean and convenient place, and show the letters to the child, name them distinctly, and remark on the form and appearance. Then proceed, if you please, with your own work, and ask the child to bring you A. If it succeed, praise it for doing well, and tell it to return A, and bring B. When these two capitals are learned, ask for little a; and then for little b. When these are learned, add another block, being careful to repeat the use of the first two, and to avoid selecting the letters in alphabetical order. Any number of children may unite in the play, and any one may instruct, that knows the letters.

Never continue the play so long as to render it tedious. Two letters learned at a lesson should satisfy you; but some children will learn the whole in two or three days.

After the large and small Roman letters are learned, the Italic letters may be made on other sides of the blocks, and learned in the same manner. Afterwards, the numbers from 1 to 26 may be marked on another side of the blocks. In this case, the blocks must be arranged in alphabetical order.

These blocks may be used with advantage in schools which contain children that have not learned the letters and numbers. Those who prefer purchasing them, may at all times be supplied by the publishers of the PRIMER." [That is, by Hilliard, Gray, & Co. Boston.] *(To be concluded.)*

ACCOUNT OF THE SYSTEM OF INFANT SCHOOLS.

(Concluded.)

Children should be taught such things only as they can understand, and as will interest and please them. There is nothing which they learn more readily, than the names of sensible objects.

It is well, therefore, to teach them, at an early age, to distinguish a great variety of such objects, and to notice the properties in which one resembles or differs from another. We shall conclude our extracts relative to infant schools, by copying Mr. Wilderspin's account of the method of communicating instruction of this kind.

"As all our ideas are admitted through the medium of the senses, they must refer in the first place to external objects. It is for this reason we bring into use the following articles.

The articles are either glued or fastened on the boards with screws or waxed thread. The boards are about sixteen inches square, and a quarter of an inch thick: wainscot is the best, as it does not warp. There should be about twenty articles on each board, or twenty-five, just as it suits the conductors of the school. There should be the same quantity of things on each board, in order that all the children may finish at one time. I will give an account of a few of our boards.

The first board contains a small piece of gold in its rough state, a piece of gold in its manufactured state, a piece of silver in both states, a piece of copper in both states, a piece of brass in both states, a piece of tin in both states, a piece of lead in both states, a piece of iron in both states, a piece of steel in both states, a piece of tinfoil, a piece of solder, a screw, a clasp nail, a clout nail, a hob nail, a spike nail, a sparable, and a tack.—These articles are all on the board; and the monitor puts his pointer to each article, and tells his little pupils their names, and encourages them to repeat the names after him. When they finish at one post, they go to the next.

The next board may contain a piece of hemp, a piece of rope, a piece of string, a piece of bagging, a piece of sacking, a piece of canvas, a piece of hessian, a piece of Scotch sheeting, a piece of unbleached linen, a piece of bleached linen, a piece of diaper linen, a piece of dyed linen, a piece of flax, a piece of thread, a piece of yarn, a piece of ticking, a piece of raw silk, a piece of twisted silk, a piece of woven silk, figured, a piece of white plain silk, and a piece of dyed silk, a piece of ribbon, a piece of silk cord, a piece of silk velvet, &c.

The next may contain raw cotton, cotton yarn, sewing cotton, unbleached calico, bleached calico, dimity, jean, fustian, velveteen gause, nankeen gingham, bed furniture, printed calico, marseilles, flannel, baise, stuff, woollen-cloth and wool, worsted, white, black, and mixed.

The next may contain milled board, paste board, Bristol card,

brown paper, white paper of various sorts, white sheep skin, yellow sheep, tanned sheep, purple sheep, glazed sheep, red sheep, calf skin, cow hide, goat skin, kid, seal, pig leather, seal skin, wash leather, beaver, &c.

The next may contain about twenty five of those wood animals, which are imported into this country, and are to be had at the Foreign Toy Warehouse; some of them are carved exceedingly well, and appear very like the real animals.

The next may contain mahogany, and the various kinds of wood.

The next may contain prunings of the different fruit trees.

The next may contain the different small articles of ironmongery, needles, pins, cutlery, small tools, and every other object that can be obtained small enough for the purpose.

ELEMENTARY EDUCATION.

[Extracted from the Academician.]

We see no reason why the education of those who are not Deaf and Dumb, might not borrow some improvement from the mode of instructing those who are; why the young scholar's earlier years might not be more profitably employed in acquiring the art of spelling by varied readings of words in sentences, and by writing them; why, by repeated oral explanation, a greater copiousness, precision, and ease of expression could not be acquired, than by spelling bare columns of words without their spirit or meaning;—why a few of those precious hours which are so often wasted over the unprofitable pages of some mere word book, had not better be devoted to the more useful task of seeking out the strength of our language, and the best array of thought in the pages of some of our correct authors. We are convinced that it is altogether injudicious to load the memory of the pupil, at the outset, with those vague and subtle distinctions among words, with which grammarians occupy themselves so much and so unprofitably, and about which they are so much at variance with each other. It is quite enough, in the first instance, that they are taught, by examples continually diversified and repeated, to use words accurately, and as others use them.

The elementary system of instruction, which has been, till of late, generally in this country, is fraught with the most pernicious consequences. Our youth have spent, and now do spend their time from the age of six to sixteen, in forcing into their memories the mere skeleton of our language. *Spelling, spelling* is the cry; but what great advantage in spelling a word by the voice, unless the person can write it correctly? what great advantage

in knowing the mere orthography of a word, when there is no meaning attached to it ?—What great use is it to keep children learning the words in spelling books and dictionaries by *heart*, unless they are made to comprehend their meaning and construction ?—The power of association, and the influence which words have in a sentence, give to the mind of the learner, as it were, a kind of shape or image, which it is impossible to convey by any other means. To pronounce words only as a parrot, without knowing what they signify, is of very little service; but as absurd as this practice is, it is done in almost every elementary school in our country.

COMMON SCHOOLS.

The following, selected from a series of numbers published in the Rockingham Gazette, contains much wholesome truth, expressed in a plain, intelligible style.

I am, in this number, to point out defects in the business of schools. I shall unceremoniously begin with

Incompetent Instructers.—It is not enough that teachers know how to read their A. B, C's, or plain English, or parse a plain sentence, or tell whether London lies in north or south latitude. They must be competent to *teach* the various branches in a proper and successful manner. Now this rule well applied, would probably exclude at least one half of our instructers. They do not understand enough of the business of instruction to maintain interest in the scholar. To instruct successfully, teachers must have not only a general, and perhaps a very slight acquaintance with the branches they teach ; they must have a particular and thorough knowledge of them. And this knowledge must be made their own by a close application to systematic study. If a man teaches grammar, he must know a little more than to tell a scholar that *the* is an article, and *for* generally a preposition, or that a verb must agree with its nominative. He must be able to go into detail. He must be able to *reason* on grammar, and show the *why*, and *wherefore*, and *wherein* of the case. The same remarks apply to arithmetic and geography. Besides, a competent instructer must interest and govern his school, as well as teach it. Many persons have the requisite knowledge, but have no faculty at governing, or exciting attention to their studies. Such persons cannot be competent teachers. Dr. Johnson, I rather think, would have made a sorry schoolmaster. He had too much of the crabbed in his notion. Should our teachers be lined, and hewed, and squared by the rule of competency, I fear

that half of them would fare worse than Agag. 'A word to the wise is sufficient.'

A want of strict Discipline.—Without the strictest order in school, no progress can be made. Where the master is made to follow the scholar, and not the scholar the master, there will be no benefit. Every thing in school should be exact—precise to a moment. Every lesson should not only be recited, but recited readily, distinctly, in proper time, and in due order. The habits and manners of children should be regarded, both in school and out. We hope in some parts of our country the subject of discipline is attended to; but in many schools, if the children are kept within doors half of the time, or are kept from breaking one another's bones, or from disturbing the whole neighborhood, we think ourselves 'well off.'

Want of Books.—Another difficulty we meet with, is a want of proper books. Children until seven or eight years old are sent to school without books. The master must furnish them, or they must depend on other children. Besides, there is a very great want of elementary books. Most of those designed for the use of children, are constructed on a plan altogether too complicated. 'Webster's Spelling Book' is far better calculated for a young man of twenty to sit down and study the philosophy of language, than for a child six or seven years old. Children are simple in their ideas. They therefore need something very simple, something that will interest, and amuse, as well as instruct them. Undoubtedly many children from an entire mismanagement of their studies, have acquired an unconquerable dislike to books. They have been put to study what they cannot understand; and if a child cannot understand a lesson, we may be certain he will not retain it in his memory without great labor; and what he has to labor so much for, he will instinctively dread. Most of our school books are better calculated for philosophers already learned, than for children learning. Take Murray's Grammar, as an example. What kind of fitness has that to a child's mind? It will do very well for those to study, who begin to inquire critically into the nature and structure of our language. But to put a child into it, is like setting him in the middle of a wilderness, and then telling him to find his way out by following trees that have a mark so high that he cannot discern it. Similar remarks might be made upon nearly all our school-books. We ought, however, to except the judicious arrangement of some modern geographers, and perhaps one late arithmetician.

A *want of general System.*—Combination and co-operation is power ; and we certainly see the need of this in schools, as much as in other things. Each school now stands independent and alone. Whatever progress is made by one, is of little benefit to others. Our schools are brought into no kind of contact, either of unison or opposition. This is a great defect in our present mode of management. We might have some system of classification of books, scholars, schools, &c. which would more than double our advantages. But every one will see, by examining our laws and our practices, that we have no *system, absolutely no system* Every one does what is right in his own eyes. Let some system be adopted, and though it be a poor one, I venture to say, it will be better than nothing. Whoever would digest a good system for common school education, would do the public more real benefit than ten banking companies.

MATHEMATICS.

The following paragraphs are extracted from a Review of "An Introduction to Algebra, upon the Inductive Method of Instruction, by Warren Colburn," contained in the U. S. Literary Gazette.

It is not enough that the teacher have a decided taste for studies of this class, and that he be familiar with the subjects. He must also have a decided taste for the business of instruction in these particular subjects. With these predilections and feelings he will acquire by degrees a facility in finding out and removing the difficulties which occur, and in making every thing comprehensible to his pupils.

But the instructer, with all these qualifications, has hitherto been embarrassed by the want of suitable school books. Every arrangement has served rather to perplex and hoodwink, than to aid and enlighten the understanding of the pupil. In Arithmetic, this difficulty has been removed by Mr. Colburn's "First Lessons" and "Sequel," two small volumes, which are doing infinite good wherever they are introduced. They are admirably fitted to prepare the student for his "Introduction to Algebra," a book which will be received with rejoicing by every intelligent instructer, as the very one that has long been wanted to bring this mysterious subject from darkness into light.

By the books in general use, these subjects have been placed above the reach of a child of only common capacity. They begin with a statement of principles and rules which convey no real knowledge to the mind. These rules comprehend a class of re-

lations with which he is totally unacquainted, besides being expressed in the technical language the child has yet to learn. He sits down to his task,—a task it is, for it is impossible that it should give him pleasure,—and commits to his memory, but not to his understanding, those formularies, which his instructer tells him are to lay the foundation of his mathematical knowledge. This he does, however, with great labor, lamenting the necessity of such an unprofitable employment of his time, and acquiring, most frequently, not a knowledge of the subject, but an unconquerable antipathy to its name and associations. After much drilling, he is able to make a kind of mechanical application of the rule to the several problems which the sagacity of the author, not his own, has placed in its train. It is quite a mistake, however, to suppose that he has made any considerable acquisition in the science of numbers. Of these relations he knows little more than at first. His adoption of the rule is purely an exercise of faith, with which his understanding has no concern; and he learns to confide in the authority of the book and the instructer, without expecting to see for himself, the reason of the process he performs and consequently without making any considerable effort to understand the relations upon which the rule is founded. The little, therefore, which he learns of any one part of the subject, is very easily forgotten; the different parts are not associated in his mind; the labor which he has bestowed upon one chapter or division of the subject, hardly makes his task easier in the next; he finds a sad up-hill work of it throughout the whole progress; and deserves to be considered a prodigy of faith and patience, if he fall not into absolute despair; and what is still worse, a child, after having been dragged and driven through a book of this kind, in this way, will require a longer time to obtain a competent knowledge of the subject, and a tolerable readiness in the practical calculations which are called for in the business of life, than would have been requisite, at first, to give him this knowledge. A boy who has been thus hackneyed in this mechanical process, will find it extremely difficult to renounce his habits of trust, and bring his mind to the constant work of investigation and discovery.

In the inductive method pursued by Mr. Colburn both in arithmetic and algebra, the pupil begins with an examination of such simple problems as are within the compass of his mind. He investigates the relations existing between the several parts of the problems of the same class, which gradually increase in the number and variety of their combinations. By solving these, he be-

comes acquainted with the particular principle, which the author designed to teach by this process. In this he has no rules, and he wants none. Every case is an examination of the particulars therein embraced. These several cases he compares, generalizes their results, and perhaps expresses the essential relations of the several parts of the problems of this class, in a general proposition, theorem, or rule. Not that he is to learn any thing from this rule; it is merely a convenient summary or synopsis of the knowledge which the induction has given him. When a new principle is introduced, it is done, not by announcing it in the shape of an abstract proposition, but through the medium of a problem involving this principle. As in every stage of this progress, the new principle introduced, is that which bears the greatest analogy to the last, nothing is difficult or hard to be understood in the place in which it comes. In a process like this the pupil learns the essence of the science; and so far from meeting with serious difficulties and discouragements, he is agreeably entertained. He sees what he is doing, and the reason of the results which he obtains; and cannot but be gratified with the continual discovery which he is making of important and interesting truths.

APPLICATION OF MIND.

[From the North American Review.]

No virtue is more rare than economy in the division and use of time, and in the few instances where this has been rigidly practised, the world has seen prodigies of attainment. Seneca tells of the vigilance with which he seized on every moment of time as it passed; not a day at its close could reproach him with idleness, and his studies were drawn out to a late hour of the night. In one of his beautiful Epistles he says: *Nullus mihi per otium dies exit; partes noctium studiis vindico; non voco somno, sed succumbo, et oculos virgilia fatigatos cadentesque, in opere dentineo.* Sir William Jones is a remarkable example in point; with talents of a high order, it is true, but more especially by an industry that never tired, and a methodical appropriation of every moment of his time to some definite purpose, he made acquisitions in the midst of a busy life, that astonish the mind, accustomed to observe only the ordinary result of intellectual labor. His aims were always fixed high, and he seldom fell below them; the vast schemes, which he did not live to mature, were not without their use in carrying his mind upward, and giving it the excitement of a lofty motive. It cannot be denied, that there is

sometimes danger to be apprehended from this very propensity for grasping so much. By indulging in so wide a range, the mind necessarily acquires a habit of dwelling on particulars, and, without the exercise of much caution and good judgment, its energy will be lost on trifles. In the same proportion it will lose the power of developing broad principles, and of drawing from particular, general and philosophical conclusions. This was doubtless, in some degree, true of Sir William Jones; not that his mind was deficient in the powers of philosophical discrimination, but his eagerness for new attainments was so great, that time was not left, nor space in his thoughts, for arrangement and combination. In many cases he reasoned and thought profoundly, but take all his labors together, we are amazed rather at what he learned, than at what he has taught.

There is good counsel in Seneca's Second Epistle, on the subject of diversity of study, which our readers will pardon us for translating. 'The best proof of a well ordered mind,' says Seneca, 'is its power of remaining quiet and keeping company with itself. Be cautious that the reading of many authors, and those of all descriptions, do not produce vagueness and instability. Close application to a few writers of rare merit is necessary, if you would treasure up any thing, which will settle faithfully into the mind.—He, who is everywhere, is nowhere; and the traveller who is always in motion, may experience much hospitality, but make no friendships. So it will be with those, who dwell not on a particular branch of study, till they become familiar with it, but are always hurrying from one thing to another. Nothing so impedes a restoration to health, as frequent change of medicine; a wound will not heal, which is irritated by repeated applications; a plant will not flourish, which is often removed to a new soil; and in short, perpetual change is injurious in every thing. A multitude of books distracts the mind. Since, therefore, you cannot read all you can obtain, it is enough that you possess as many as you can read. 'But,' you reply, 'I wish to look a little into this volume, and a little into that.' It is the mark of a fastidious stomach to desire to taste of many dishes, which, when of various kinds, vitiate rather than nourish the body. Hence, let your reading be confined to the most approved authors, and if at any time you seek for amusement in others, return again to the first.' Sir Matthew Hale is an illustrious example of the wonders that may be wrought, by a methodical use of time; his application was unremitted, and the compass of

his knowledge almost without bounds, but he knew how to estimate it rightly ; he made all his acquisitions subservient to discovering the springs of society, unfolding the principles of human nature, teaching lessons of practical wisdom, and acting on the condition of man. He sought knowledge for these ends alone, and valued particulars only as they opened light into some new truth, and conducted him to useful and comprehensive result.

EDUCATION IN EUROPE.

A French Journal has furnished a table presenting a comparison of the number of children in the several counties of Europe, who are educated at public schools, with the whole population. According to this table, the pupils of the public schools in the circle of Gratz are one in nine of the whole population,—in Bohemia, one in eleven—in Moravia and Silesia, one in twelve—in Austria, one in thirteen—in Prussia, one in eighteen—in Scotland, one in ten—in England, one in sixteen—in Ireland, one in eighteen—in France, one in thirty—in Poland, one in seventy-eight—in Portugal, one in eighty—and in Russia, one in nine hundred and fifty-four.

BOSTON FEMALE SCHOOLS.

The exhibition in " the High School for Girls" took place recently, attended by the School Committee. The performances occupied more than four hours, and still some examinations proposed were omitted. The school consists of one hundred and thirty, and is under the care of a single instructer. He has adopted, in part, the monitorial system ; and therefore has the assistance of a great part, alternately, of his oldest and best scholars.—*Boston Gazette*

IMPROVEMENT IN SCHOOLS.

A convention of persons from several towns in the county of Berkshire, (Mass.) has been held at Lenox, for the purpose of introducing the best standard works into the public schools of that county, and, as far as practicable, producing a uniformity.

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